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EXAMINER	
LEE, BETTY E	
ART UNIT	PAPER NUMBER
2616	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

SF

Office Action Summary	Application No.	Applicant(s)	
	10/619,384	CORSON ET AL.	
	Examiner	Art Unit	
	Betty Lee	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *14 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-39, 44, and 45* is/are rejected.

7)☒ Claim(s) *42 and 43* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 2/6/04
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 40-45 are objected to under 37 C.F.R. 1.75 because of the following informalities:

Claim 40 line 1 recites "the communication device of claim 38". Based on the limitations claimed in claim 40, it is believed that the dependency of claim 40 from claim 38 is in error and claim 40 depends from claim 39. If this is true, Applicant should change "claim 38" to --- claim 39 ---. Appropriate correction is required.

Claims 41-43 are object to as being dependent on a rejected base claim.

2. Note: Claims 40-45 will be examined for prior art as if claim 40 depends from claim 39.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-38, 44, and 45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 line 4-5 recites "corresponds to a network node that is important to routing of signals". The use of the word "important" is vague, and it is unclear what criteria categorizes "a network node" as "important to routing of signals". Claim 1 line 8

also recites "an operation to ameliorate the effect of the network node fault". The use of the word "ameliorate" is vague, and it is unclear what type of operation would "ameliorate" the effect of a fault. There are similar problems with claims 2, 3, 4, 5, 9, 22, 23, 25, 31, 34, 37, 44, and 45.

Claim 27 recites the limitation "the received message" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claims 6-8, 10-21, 24, 26, 28-30, 32, 33, 35, 36, and 38 are rejected under 35 U.S.C. 112, second paragraph, as being dependent on a rejected base claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-3, 5, 7, 18, 22, 23, 25-28, 36, 37, and 39 are rejected under 35 U.S.C. 102(e) as being anticipated by Jain (US 2002/0116669).

For claim 1, Jain teaches operating an end node to receive a fault signal indicating a network node fault (see paragraph 81 lines 1-2; A node becomes aware of a node fault through a fault notification); determining if the network node fault corresponds to a network node that is important to routing of signals to or from the end

node (see paragraph 81 lines 5-8; If the network resources of a node are being used, then it is important to routing.); and if it is determined that the network node fault corresponds to a network node that is important to routing of signals to or from the end node, operating the end node to initiate an operation to ameliorate the effect of the network node fault on the end node (see paragraph 81 lines 8-13; The effect of the network node fault is ameliorated by re-routing data around the fault.).

For claim 2, Jain teaches comparing network node information included in the received fault signal to stored information identifying at least one network node important to routing of signals to or from the end node (see paragraph 78 lines 8-11; The information in the fault notification is used to determine if the fault will affect the node.).

For claim 3, Jain teaches determining the operation to ameliorate the effect of the network node fault as a function of information stored in the end node, the stored information relating to a plurality of possible operations (see paragraph 81 lines 5-10 and paragraph 76 lines 1-2; The effect of the fault is ameliorated by sending fault notifications to other nodes or re-routing the data.).

For claim 5, Jain teaches a list of network nodes important to the routing of signals to the end node (see paragraph 66 lines 1-6; A group of nodes are determined to be important to the routing of a node if the node commonly uses it.).

For claim 7, Jain teaches information identifying a network node which is used by the end node as an access node through which the end node is coupled to other nodes in the communications network (see Fig. 1 Box 120 and paragraph 88 lines 5-8; Figure

1 shows nodes coupled to other nodes and the node determines if the fault affect its operations.).

For claim 18, Jain teaches receiving a fault signal at a first network node (see paragraph 73 lines 1-2); and sending a network node fault signal to the end node in response to receiving the fault signal (see paragraph 73 lines 1-2).

For claim 22, Jain teaches operating a plurality of additional end nodes to receive the fault signal (see paragraph 76 lines 1-2); and operating each of the additional end nodes, in the plurality of additional end nodes to determine if the node fault corresponds to a network node that is important to routing of messages to or from the additional end node (see paragraph 78 lines 8-11; If the fault is likely to affect the operations of the node, then it is important to routing.).

For claim 23, operating each additional end node which determines that the network node fault corresponds to a network node that is important to routing of messages to or from the additional end node (see paragraph 78 lines 8-11; If the fault is likely to affect the operations of the node, then it is important to routing), to initiate an operation to ameliorate the effect of the network node fault on the additional end node (see paragraph 81 lines 10-13; If the fault affects the node, then the fault is ameliorated by re-routing data around the fault.).

For claim 25, Jain teaches operating an end node to receive a service interference notification signal indicating interference with service at a network node (see paragraph 81 lines 1-2; A node becomes aware of a interference with service through a fault/service interference notification); determining if the indicated service

interference corresponds to a network node that is critical to the end node (see paragraph 81 lines 5-8; If the network resources of a node are being used, then it is critical to routing.); and if it is determined that the indicated network node service interference corresponds to a network node that is critical to the end node, operating the end node to initiate an operation to ameliorate the effect of the indicated network node service interference on the end node (see paragraph 81 lines 8-13; The effect of the network node fault is ameliorated by re-routing data around the fault.).

For claim 26, Jain teaches where the service interference notification signal is a fault message indicating a service outage at the network node due to a network node fault (see paragraph 81 lines 1-3; A fault/service interference notification is sent indicating a fault.).

For claim 27, Jain teaches comparing network node information included in the received message to stored information identifying network nodes critical to the end node (see paragraph 78 lines 8-11; The information in the fault notification is used to determine if the fault will affect the node.).

For claim 28, Jain teaches a network node is critical to the end node if the network node is necessary for proper routing of at least some signals to the end node (see paragraph 78 lines 8-11; If the fault with affect the node, then the network node is necessary for proper routing.).

For claim 36, Jain teaches operating a plurality of additional end nodes to receive the service interference notification signal (see paragraph 76 lines 1-2; The service interference/fault notification is sent to other nodes.); and operating each of the

additional end nodes, in the plurality of additional end nodes, to determine if the indicated network node service interference corresponds to a network node that is important to routing of messages to or from the additional end node (see paragraph 81 lines 1-10; If the failed resource is in use, then it is important to the routing of messages.).

For claim 37, Jain teaches operating each additional end node which determines that the service interference notification signal corresponds to a network node that is important to routing of messages to or from the additional end node (see paragraph 81 lines 1-10; If the failed resource is in use, then it is important to the routing of messages.), to initiate an operation to ameliorate the effect of the service interference on the additional end node (see paragraph 81 lines 8-13; The data is re-routed around the fault.).

For claim 39, Jain teaches memory including a set of stored information indicating network nodes which are necessary to proper routing of signals either to the communications device or from the communications device to other network nodes (see Fig. 3 Box 312); receiver circuitry for receiving messages from network nodes including service interference notification messages indicating service interference at a network node (see Fig. 3 Box 304); and means for processing received service interference notification messages to determine if service interference indicated by a received network service interference notification message indicates service interference at a network node necessary to proper routing of signals either to the communications

device or from the communications device to another network node (see Fig. 3 Boxes 336, 338, 340).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jain (US 2002/0116669) in view of Lindskog et al. (US 6,665,262).

For claim 8, Jain teaches all the subject matter of the claimed invention with the exception of the access node is a base station and where the end node is a mobile device that is coupled to the base station by a wireless communications link. Lindskog et al. teach fault management in a wireless system (see Fig. 6 boxes 64 and 68). Thus, it would have been obvious to one of ordinary skill to use the system of Lindskog as the system in which the fault recovery method of Jain is used. The fault recovery method of Jain can be implemented on any type of network in which data is transmitted that is susceptible to faults. The motivation for using the fault recovery method of Jain in the wireless network of Lindskog is to recover from a fault that could occur at a base station.

11. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jain (US 2002/0116669) in view of Sato (US 2003/0022666).

For claim 9, Jain teaches all the subject matter of the claimed invention with the exception of dynamically generating at least a portion of the stored information identifying network nodes. Sato teaches dynamically generating at least a portion of the stored information identifying network nodes important to routing of signal to or from the send node from information included in signals sent to or from the end node (see

paragraph 43 lines 5-11; Network nodes are identified by device identification transmitted from the devices.).

Thus, it would have been obvious to one of ordinary skill in the art to use the dynamic identification method of Sato in the system of Jain. The dynamic identification method of Sato can be modified/implemented into the system of Jain by having other nodes send identification data to other nodes. The motivation for using the dynamic identification method of Sato in the system of Jain is to allow the nodes to store current information regarding how the nodes are interconnected should a topology change occur.

For claim 10, Jain teaches all the subject matter of the claimed invention with the exception of operating the end node to monitor for non-fault related signals and to generate at least some of the stored information from the monitored non-fault related signals. Sato teaches operating the end node to monitor for non-fault related signals and to generate at least some of the stored information from the monitored non-fault related signals (see paragraph 43 lines 5-11; Device identification messages are non-fault related signals.).

Thus, it would have been obvious to one of ordinary skill in the art to use the dynamic identification method of Sato in the system of Jain. The dynamic identification method of Sato can be modified/implemented into the system of Jain by having other nodes send identification data to other nodes. The motivation for using the dynamic identification method of Sato in the system of Jain is to allow the nodes to store current

information regarding how the nodes are interconnected should a topology change occur without depending on fault messages to determine a change.

12. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jain (US 2002/0116669) in view of Sato (US 2003/0022666) as applied to claim 10 above, and further in view of Reeves et al. (US 2002/0080794).

For claim 11, Jain in view of Sato teach all the subject matter of the claimed invention with the exception of the non-fault related signals include session signal messages. Reeves et al. teach session signaling messages (see paragraph 58 lines 1-6 and paragraph 62 lines 4-8; Session signaling messages are used to keep track of routing between nodes.).

Thus, it would have been obvious to one of ordinary skill in the art to use the method as taught by Reeves in the method of Jain in view of Sato. The method of Reeves can be modified/implemented into the method of Jain in view of Sato by using the session signaling messages as taught by Reeves to monitor the routing sessions setup between nodes. The motivation for using the method of Reeves in the method of Jain in view of Sato is to signaling, which is done when connections between nodes are setup, to determine the connections of the nodes without sending specific messages to determine topology.

13. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jain (US 2002/0116669) in view of Sato (US 2003/0022666) as applied to claim 10 above, and further in view of Bender et al. (US 2003/0016629).

For claim 12, Jain in view of Sato teach all the subject matter of the claimed invention with the exception of the non-fault related signals are routing messages. Bender teaches the non-fault related signals are routing messages (see paragraph 34 lines 3-10; The routed path of the message is stored by the node.).

Thus, it would have been obvious to one of ordinary skill in the art to use the method as taught by Bender in the method of Jain in view of Sato. The method of Bender can be modified/implemented into the method of Jain in view of Sato by having the node store the path taken by the message to determine how the nodes are connected. The motivation for using the method of Bender in the method of Jain in view of Sato is to determine the topology of the nodes through routine routing messages.

14. Claims 15, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jain (US 2002/0116669) in view of Bender et al. (US 2003/0016629)

For claim 15, Jain teaches sending a fault signal when a fault condition is indicated (see paragraph 76 lines 1-2). Jain also states that other fault detection techniques may be used (see paragraph 72 lines 9-10). Jain teaches all the subject

matter of the claimed invention with the exception of sending a status request signal and receiving a response to the status signal. Bender et al. teaches a fault detection using a signal/message. Bender teaches sending a status request signal from a first network node to a second network node (see paragraph 35 lines 1-3); and receiving a response to the status request signal.

Thus, it would have been obvious to one of ordinary skill in the art to use the fault detection method of Bender in the fault recovery method of Jain. The fault detection method of Bender can be modified/implemented into the method of Jain by using the fault detection method as taught by Bender to determine the occurrence of a fault. Once a fault has been detected the notification method of Jain is used to notify other nodes of a failure. The motivation for using the method as taught by Bender in the method of Jain is so that the network management device can actively detect a fault without waiting for a fault notification from a different node.

For claim 16, Jain teaches all the subject matter of the claimed invention with the exception of sending a status request signal and determining a fault from the lack of a response. Bender et al. teaches periodically sending a status request signal from a first network node to a second network node (see paragraph 35 lines 1-3; A message is sent to a node and the node waits for a predetermined time period for a response. After the time period expires, if no response is received, the node sends another message.), and sending a network node fault signal to the end node when a response to at least one of the periodically received status request signals is not received (see paragraph 35 lines

10-13; Once the number of times no response has been received from the message crosses a threshold, a fault is considered to have occurred.).

Thus, it would have been obvious to one of ordinary skill in the art to use the fault detection method of Bender in the fault recovery method of Jain. The fault detection method of Bender can be modified/implemented into the method of Jain by using the fault detection method as taught by Bender to determine the occurrence of a fault. Once a fault has been detected the notification method of Jain is used to notify other nodes of a failure. The motivation for using the method as taught by Bender in the method of Jain is so that the network management device can actively detect a fault without waiting for a fault notification from a different node.

For claim 17, Jain teaches sending a fault signal when a fault condition is indicated (see paragraph 76 lines 1-2). Jain also states that other fault detection techniques may be used (see paragraph 72 lines 9-10). Jain teaches all the subject matter of the claimed invention with the exception of counting the number of consecutive status request signals sent for which a response is not received and sending a fault signal in response to determining that the maintained count at least equals a threshold number. Bender teaches maintaining a count of the number of consecutive status request signals sent to the second node for which a response is not received (see paragraph 35 lines 10-12) and a fault is determined in response to determining that the maintained count at least equals a threshold number (see paragraph 35 lines 10-12).

Thus, it would have been obvious to one of ordinary skill to use the fault detection method of Bender in the fault notification method of Jain. The fault detection method of Bender can be modified/implemented into the method of Jain by using the fault detection method as taught by Bender to determine the occurrence of a fault. Once a fault has been detected the notification method of Jain is used to notify other nodes of a failure. The motivation for using the method as taught by Bender in the method of Jain is so that the network management device can actively detect a fault without waiting for a fault notification from a different node.

15. Claims 19-21, 24, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jain (US 2002/0116669) in view of Shah (US 5,390,326).

For claim 19-21, 24, and 35, Jain teaches sending fault signals to a plurality of end nodes (see paragraph 76 lines 1-2) and messages sent in using internet protocol (IP) (see paragraph 39 lines 1-7). Jain teaches all the subject matter of the claimed invention with the exception of periodically sending fault signals to a plurality of end nodes at preselected time intervals and monitoring for fault signals at preselected time intervals. Shah teaches periodically sending fault signals to a plurality of end nodes at preselected time intervals (see col. 4 lines 44-46 and 53-59); and operating at least some of the plurality of end nodes to monitor for fault signals at the preselected time intervals but not between the preselected time intervals (see col. 4 lines 44-46).

Thus, it would have been obvious to one of ordinary skill to use the system of Shah in the system of Jain. The system of Shah can be modified/implemented in the

system of Jain by using the node as taught by Shah which sends and monitors for fault notifications at the preselected time intervals. The motivation for using the system of Shah in the system of Jain is to allow the nodes only have to monitor for fault signals at the time intervals selected, which allows the nodes to reduce processing power previously spent on constantly monitoring for fault signals.

16. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jain (US 2002/0116669) in view of Keller et al. (US 2004/0049565).

For claim 38, Jain teaches the service interference notification signal is a message indicating a fault (see paragraph 81 lines 1-3; A fault/service interference notification is sent indicating a fault.). Jain teaches all the subject matter of the claimed invention with the exception that a fault is a service outage. Keller et al. teach that a service outage is failure of the system, which is considered a fault (see paragraph 15 lines 1-5).

Thus, it would have been obvious to one of ordinary skill in the art to use the method of Keller in the system of Jain. The method of Keller can be modified/implemented into the system of Jain by programming the nodes to consider a service outage/system failure to be a fault and to then issue a fault notification for the outage. The motivation for using the method of Keller in the system of Jain is in the event of the failure of a node in the network, which would cause a break in the connections between the node, to have the system recognize that as a fault.

17. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jain (US 2002/0116669).

For claim 40, Jain teaches the device being a wired device in a wired network. However, a wired data network can be implemented wirelessly with the same configuration and structure. If this data network was a wireless system, then the device would have to be portable and the receiver circuitry would include a receiver circuit. The wireless network can be implemented in the system of Jain by implementing the nodes using wireless equipment, i.e. routers. The motivation for implementing a wireless network is to use the method of Jain to detect and recover from faults in a wireless network.

18. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jain (US 2002/0116669) as applied to claim 40 above, and further in view of Shah (US 5,390,326).

For claim 41, Jain teaches all the subject matter of the claimed invention with the exception of monitoring for fault/service interference notifications at preselected intervals. Shah teaches monitoring for the fault/service interference notifications at preselected intervals but not between the preselected time intervals (see col. 4 lines 44-46).

Thus, it would have been obvious to one of ordinary skill to use the system of Shah in the system of Jain. The system of Shah can be modified/implemented in the system of Jain by adding the system as taught by Shah which monitors for fault

notifications at the preselected time intervals. The motivation for using the system of Shah in the system of Jain is to allow the nodes only have to monitor for fault signals at the time intervals selected, which allows the nodes to reduce processing power previously spent on constantly monitoring for fault signals.

Allowable Subject Matter

19. Claims 4, 6, 13, 14, 29-34, 44, and 45 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

20. Claims 42 and 43 would be allowable if rewritten to overcome the objection(s) under 37 C.F.R. 1.75, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shimono (US 2005/0083832), Dunlop et al. (US 2003/0229818), Iidaka (US 2002/0048290), and Krishnan et al. (US 7,120,690) are all cited to show systems which are considered pertinent to the claimed invention.

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betty Lee whose telephone number is (571) 270-1412. The examiner can normally be reached on Monday-Thursday 10-3 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BL

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